

XXVI. *Studies of the Blattidæ.* By R. SHELFORD, M.A.,  
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[Read December 4, 1907.]

VIII. THE BLATTIDÆ DESCRIBED BY LINNÆUS, DE GEER  
AND THUNBERG.

STÅL published in 1873, 1874, and 1875 the three parts of his "Recensio Orthopterorum. Revue critique des Orthoptères décrits par Linné, De Geer et Thunberg." The families treated in this memoir, which is not only a critical review but a revision of genera also, are the Acridiidæ, Locustidæ, Gryllidæ and Phasmidæ. Stål relinquished the idea of treating the Mantidæ and Blattidæ in the same way, though in 1877 he published his "Systema Mantodeorum," and this contains all the information necessary for the correct determination of the scanty number of species described by the older Swedish entomologists. The Blattidæ have long been neglected, and since the exact determination of the species described by the older authors is, in any systematic work on any group of insects, a matter of first-rate importance, if not an actual necessity, I made it the first object of a visit to Sweden last summer to examine in detail the Blattidæ in the collections of De Geer at Stockholm and of Thunberg at Uppsala. The collection of Queen Louisa Ulrica now at Uppsala contains only three species of Blattidæ described by Linnæus, and I assumed that the remainder of his types were in the possession of the Linnæan Society of London. However, on looking over this collection recently I found that such was by no means the case, and for reasons given below I believe that with one exception those types of Blattidæ described by Linnæus, which are not at Uppsala nor in London, are in De Geer's collection at Stockholm. In my investigations I have received the kindest assistance from Dr. Daydon Jackson, Prof. Chr. Aurivillius, Dr. Y. Sjöstedt and Dr. Ivar Trägårdh, to all of whom I beg to offer my cordial thanks.

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## i. SPECIES DESCRIBED BY LINNÆUS.

The Linnæan species are twelve in number, viz. :—

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|-----|------------------------------|-------------------------------------|-----------------|
| 1.  | <i>Blatta gigantea</i> ,     | Syst. Nat. (ed. x) i, p. 424,       | No. 1 (1758).   |
| 2.  | „ <i>ægyptiaca</i> ,         | op. cit.                            | No. 2.          |
| 3.  | „ <i>surinamensis</i> ,      | „ „                                 | No. 3.          |
| 4.  | „ <i>americana</i> ,         | „ „                                 | No. 4.          |
| 5.  | „ <i>nivea</i>               | „ „                                 | No. 5.          |
| 6.  | „ <i>africana</i>            | „ „                                 | No. 6.          |
| 7.  | „ <i>orientalis</i> ,        | „ „                                 | No. 7.          |
| 8.  | „ <i>lapponica</i> ,         | „ „                                 | No. 8.          |
| 9.  | „ <i>oblongata</i> ,         | „ „                                 | No. 9.          |
| 10. | <i>Cassida petiveriana</i> , | „ „                                 | p. 364, No. 18. |
| 11. | „ <i>7-guttata</i> ,         | Syst. Nat. (ed. xii) i (2), p. 577, | No. 19 (1767).  |
| 12. | <i>Blatta germanica</i> ,    | op. cit.                            | p. 668, No. 7.  |

With the exception of *nivea* and *oblongata* all the species have been determined with accuracy by subsequent authors.\* *Petiveriana* and *7-guttata*, originally described as Coleoptera, are synonymous. As regards the types, *gigantea*, *ægyptiaca* and *africana* represented by unique male specimens are in the Queen Ulrica collection at Uppsala. The Linnæan Society's collection of insects contains a number of Blattidæ, but only five of these can be identified by the labels in Linnæus' handwriting as his types, viz., *lapponica* (1 ♂, 1 ♀), *germanica* (1 ♂), *orientalis* (1 ♂), *petiveriana* (1 ♂) and *7-guttata* (♀). The other species were added subsequent to the purchase of the Linnæan cabinet and bear labels in various handwritings; moreover the collection includes no species that can possibly be identified with *oblongata* and *nivea*. The types of four species have still to be accounted for, viz. *surinamensis*, *americana*, *nivea* and *oblongata*. I have some reason for believing that these are in De Geer's collection. De Geer in his "Mémoires pour servir à l'histoire des insectes," vol. iii (1773), enumerates twelve species of Blattidæ, six of which he describes as new and

\* Brunner however in his "Nouveau Système des Blattaires," p. 357 (1865), identifies *Polyphaga ursina*, Burm., with *africana* L., which is incorrect, for the species are very different,

six of which are Linnæan species, Linnæus' descriptions in full being prefixed to his own descriptions. Of these six Linnæan species he records two as occurring in Russia, Finland and Sweden, viz. *orientalis* and *lapponica*; the other four correspond with the missing Linnæan types, viz. *surinamensis*, *americana*, *nivea* and *oblongata*. The coincidence is arresting, and I have looked into the matter more closely to see if it is something more than mere coincidence. In the first place we may assume with some degree of confidence that the two local species of Blattidæ, *lapponica* and *orientalis*, were the first to attract the attention of Swedish naturalists and formed the nucleus of collections of these insects; consequently to find specimens of them in the cabinets both of Linnæus and De Geer is not surprising. De Geer received, as he states in his book, insects from Surinam, sent to him by his correspondent Rolander: is it not probable that at first he lent these for description to his friend Linnæus who he knew to be preparing new editions of his "Systema Naturæ," but that when later he wrote his own work on entomology he kept the specimens that arrived from Rolander and described them himself? Thus we find in De Geer's collection two common local species, ten exotic species, four of which were described by Linnæus in 1758, six by himself in 1773. The supposition that Linnæus described specimens from De Geer's collection becomes almost a certainty when we read in De Geer's description of *Blatta oblongata* (l. c., p. 541), "Cette petite Blatte que M. Rolander m'a encore envoyée de Surinam . . .," and on turning to the Linnæan description of the species see that it ends with "*Habitat* in America. *Rolander*." It is possible but not very probable that Rolander sent specimens of this species both to Linnæus and to De Geer, and as a matter of fact Dr. Daydon Jackson tells me that Linnæus somewhere laments that Rolander never gave him anything. That Linnæus and De Geer were on the most friendly terms is shown by the series of fifteen letters to Linnæus from De Geer, now in the possession of the Linnæan Society. Dr. Daydon Jackson has also drawn my attention to a passage in a translation of Linnæus' diary printed in Morton's edition of Pulteney's Linnæus: "Rolander collected in the islands near America a great many plants, which he gave to M. de Geer, Chamberlain of the Household, who made me a present of every one of

them." Whether my supposition that De Geer lent some of the specimens in his collection to Linnæus for description is correct—and it must be admitted that there is a degree of probability in its favour—or not, I would venture to suggest that the specimens of *surinamensis*, *americana* and *nivea* now in the De Geer cabinet be selected as the types of the Linnæan species; otherwise these species must remain without typical specimens, for if these specimens are not the actual types then the actual types are irrevocably lost. The specimen of *oblongata* in De Geer's cabinet cannot be chosen as the type of the species, for, though it is in a fragmentary condition, enough remains to show that it does not in the least correspond with the Latin diagnosis of Linnæus or with De Geer's description in French or with his figures. In other words, this is not the actual specimen on which both Linnæus and De Geer based their descriptions; that specimen must have been lost or destroyed accidentally, and the existing specimen subsequently placed under the same name, either by De Geer or perhaps still later by some one else. The discrepancy between the descriptions of *oblongata* and the existing specimen does not invalidate my view as to the identity of the Linnæan types, for the diagnosis of Linnæus tallies perfectly not only with De Geer's description but with his figure. It is noteworthy too that in the case of the other three species the Linnæan diagnoses agree perfectly with De Geer's specimens, figures and descriptions; the Latin diagnoses are of course much shorter than the French descriptions, which are therefore not mere translations, but additional and amplified diagnoses.

As to *oblongata* there seems nothing for it but to regard the species for the present as uncertain; it has not been recognised with accuracy since it was described, for the *Blatta oblongata* of Serville and the *Thyrsoecera oblongata* of Brunner and de Saussure is quite a different insect, to be identified probably with the *Blatta intercepta* of Burmeister. The species described by Walker as *Pseudomops inclusa* (= *amæna* Sauss.) is evidently closely allied to *oblongata* L., and a long series of specimens might show that Walker's species was merely a varietal form of *oblongata*.

The other Linnæan species which had not been recognised with certainty by later authors, *Blatta nivea*, will be discussed in the next section of this paper.

## ii. DE GEER'S COLLECTION.

As already stated, De Geer in his "Mémoires pour servir à l'histoire des insectes," vol. iii (1773) enumerates twelve species of Blattidæ, six of which are described as new, viz. :—

*Blatta pensylvanica.*

*Blatta abdomen-nigrum.*

*Blatta livida.*

*Blatta rufa.*

*Blatta grisea.*

*Blatta minutissima.*

The remaining six species are Linnæan species, but new names are given to two, even though De Geer fully recognised the specific identity of his species with those of Linnæus.

The collection is now at Stockholm in the Riks Naturhistoriska Museum, and with the exception of one specimen is in a good state of preservation. I am indebted to Dr. Y. Sjöstedt for permission to make a careful examination of this very interesting collection. The following is a catalogue of the specimens with annotations:—

1. *Blatta culinaris*, De Geer, op. cit. p. 530, pl. 25, ff. 1-7.

This is the *Blatta orientalis* of Linnæus; 2 ♂♂, 1 ♀, and also 1 larva of *Pyenoscelus surinamensis*, L.

2. *Blatta lapponica*, De Geer, op. cit. p. 533, pl. 25, ff. 8-12.  
= *Ectobius lapponicus*, L.  
3 ♂♂.

3. *Blatta kakkerlae*, De Geer, op. cit. p. 535, pl. 44, ff. 1-3.  
= *Periplaneta americana*, L.  
1 ♂, 1 ♀.

From S. America (Rolander.)

4. *Blatta pensylvanica*, De Geer, op. cit. p. 537, pl. 44, f. 4.  
= *Ischnoptera pensylvanica*, De Geer.  
1 ♂.

The species has been recognised and correctly determined by all subsequent authors.

From "Pensylvania" (Acrelius).

5. *Blatta abdomen-nigrum*, De Geer, op. cit. p. 537, pl. 44, f. 5.

= *Epilampra abdomen-nigrum*, De Geer (*syn. Epilampra brevis*, Brunner, P.Z.S. Lond., 1892, p. 203, pl. 15, f. 3).

1 ♀.

The species is omitted in Kirby's "Synonymic Catalogue of Orthoptera."

Description of the type:—

♀. Rufo-testaceous shading to rufo-castaneous. Head with vertex between the eyes castaneous, rest of head rufo-testaceous with a few scattered brown points; width between the eyes slightly greater than length of first antennal joint. [Antennæ mutilated.] Pronotum trapezoidal, anteriorly truncate, posteriorly produced, sides deflexed; smooth, rufo-testaceous but densely covered with fine castaneous dots, lyrate markings faintly indicated. Tegmina just failing to reach base of supra-anal lamina, rufo-castaneous with a few scattered castaneous points; anal field with slight indications of seriate punctures; the part of the right tegmen overlapped by the left, dark castaneous; mediastinal vein forked at apex, radial vein bifurcate, dark castaneous at base, 12 costals from upper branch of radial, the lower branch multiramosæ. Abdomen above heavily mottled with castaneous, supra-anal lamina produced, triangular, apex notched, (slightly mutilated during life and regenerated on the right side), projecting beyond the sub-genital lamina. Spiracular tubes prominent. Abdomen beneath castaneous, sub-genital lamina produced, ample, posterior margin sinuate. [Cerci mutilated.] Coxæ rufo-testaceous, spotted with castaneous; femora rufo-testaceous with a castaneous line along the outside and lower aspect; tibiæ with apex and a line down the outer aspect castaneous. Front femora with a series of 5 spines on the anterior margin beneath, succeeded distally by a row of piliform setæ, 2 spines on the posterior margin, mid-femora with 4 spines on anterior margin and also on posterior margin beneath, hind-femora with 3 on anterior margin and 4 on posterior margin beneath. Formula of apical spines  $\frac{2}{1}$ ,  $\frac{1}{1}$ ,  $\frac{1}{0}$ , no genicular spines on front femora. Posterior metatarsus [one absent] has been regenerated and is composed of 4 joints only.

Total length 25.5 mm.; tegmina 18.1 mm.; pronotum 7 mm. × 8.4 mm.

The species is recorded from Surinam by De Geer;

there are examples in the Oxford Museum from Demerara, Guadeloupe and I. of St. Vincent.

6. *Blatta livida*, De Geer, op. cit. p. 538, pl. 44, f. 6.

= *Epilampra abdomen-nigrum*, De Geer.

1 ♂.

One example with the abdomen missing. From a comparison with specimens in the Oxford Museum, I am convinced that this species of De Geer's is merely the male of *E. abdomen-nigrum*. The differences between the two specimens are, irrespective of size, very trifling, e.g. in *Blatta livida*, the mediastinal vein is triramose, there are only 10 costals, the legs are testaceous, and there are only 4 spines on the anterior margin beneath of the front femora and 3 on both margins beneath of the other pairs.

Total length 19 mm.; tegmina 15 mm.; pronotum 5 mm. × 6.9 mm.

Also recorded from Surinam. The unique specimen bears a label in Stål's handwriting "*Epilampra brasiliensis*, Burm. var."

7. *Blatta rufa*, De Geer, op. cit. p. 539, pl. 44, f. 7.

(*syn. Ischnoptera rufa*, Brunner.)

1 ♂.

This species also is omitted in Kirby's Catalogue.

Description of the type:—

♀. Uniform rufo-castaneous. [Head missing.] Pronotum trapezoidal, anteriorly truncate, sides deflexed, posteriorly very obtusely angulated, smooth, with two oblique obsolescent impressions. Scutellum exposed. Tegmina and wings extending considerably beyond the apex of the abdomen; mediastinal vein simple, radial vein not bifurcate, 16-18 costals, 11 longitudinal discoidal sectors, both the ulnar veins being ramose, the sectors connected by numerous transverse venulæ. Supra-anal lamina triangularly produced, its apex hyaline, exceeding the sub-genital lamina in length, sparsely fimbriate. Abdomen beneath castaneous, sub-genital lamina semi-orbicular, ample. [Cerci mutilated.] Legs testaceous, tibiæ rather darker than femora. Front femora with 4 spines on anterior margin, succeeded distally by piliform setæ, one spine on posterior margin beneath; mid and hind femora with 4 spines on both margins

beneath. Formula of apical spines  $\frac{1}{2}$ ,  $\frac{1}{2}$ ,  $\frac{1}{2}$ , no genicular spines on front femora.

Total length 21 mm.; body-length 13.5 mm.; tegmina 17 mm.; pronotum 4.1 mm.  $\times$  5.5 mm.

From Surinam.

8. *Blatta surinamensis*, L., De Geer, op. cit. p. 539, pl. 44, f. 8.

= *Pyenoseclus surinamensis*, L. Type.

One example with the abdomen missing.

From Surinam.

9. *Blatta grisea*, De Geer, op. cit. p. 540, pl. 44, f. 9.

= *Epilampra grisea*, De Geer.

(syn. *Blatta maculicollis*, Serv.

? *Phyllodromia burmeisteri*, Guér.

*Epilampra brasiliensis*, Brunner (nec Fab.) .)

1 ♂ with label in Stål's handwriting, "*Epilampra burmeisteri*, Sauss.

#### Description of the type:—

♂. Testaceous. Head with sparse castaneous mottlings on the vertex and frons. Eyes converging slightly on frons which is slightly depressed and faintly wrinkled between lower part of eyes; least distance between eyes greater than breadth of 1st antennal joint but less than its length. Pronotum sprinkled with minute castaneous points, but almost devoid of the lyrate markings characteristic of the genus, these being represented by two triangular castaneous points near base of the disc. Tegmina testaceous, a few scattered castaneous dots along the radial vein and at apex, mediastinal vein with 2 short branches, 11 costals, radial bifurcate, 10 longitudinal discoidal sectors. Abdomen beneath sprinkled with castaneous; supra-anal lamina produced, bilobed, exceeding in length the subgenital lamina which is rather narrow, slightly asymmetrical and furnished with 2 slender styles. Cerci rather long. Legs testaceous, front femora with 5 spines on anterior margin, 3 on posterior margin beneath, mid-femora with 4 on both margins, hind-femora 3 on anterior margin, 4 on posterior margin; formula of apical spines  $\frac{1}{2}$ ,  $\frac{1}{2}$ ,  $\frac{1}{2}$ , no genicular spines on front femora. Posterior metatarsus longer than remaining joints; all the tarsal joints biserially spined beneath.



Total length 24·1 mm.; body-length 20·4 mm.; tegmina 20·5 mm.; pronotum 5 mm. × 6 mm.

Recorded from Surinam.

10. *Blatta nivea*, L., De Geer, op. cit. p. 540, pl. 44, f. 10.  
 = *Panchlora nivea*, L. Type.  
 (*syn. Panchlora virescens*, Thunb.)  
 1 ♂.

The genus *Panchlora* includes several species described by the older authors, e. g. *viridis* Fab., *hyalina* Stoll, *virescens* Thunb., *exoleta* Burm., *viridis* Burm., *chlorotica*, Pall.; to determine these with accuracy or to fix their synonymy is a matter of impossibility unless all the types are critically examined. De Saussure and Zehntner in the "Biologia Centrali-Americana. Orthoptera," vol. i, p. 90-92, have drawn up a synoptical key to the species of *Panchlora* without consulting any of the older types; such a key certainly enables the student to give a name to his specimens, but by no means does it follow that these names are correct, in fact it must be a matter of pure chance if the use of such a key enables the systematist to identify any one of his specimens with accuracy. A good example of this is shown in the species under notice, *P. nivea*, L.; the key of de Saussure and Zehntner accidentally is correct in diagnosing *P. virescens* Thunb., but *P. nivea*, L. is situated in another part of the key; yet these two species are the same, as I have discovered from an examination of De Geer's specimen which I accept as the Linnean type and of Thunberg's type. The identification of the species of *Panchlora* is most difficult, as they resemble each other very closely and present scarcely any characters that do not vary to such an extent that they are practically useless for purposes of discrimination. One character however appears to be of some importance, viz. the form of the cerci, and the size of their apical joints when viewed from below. In a species which I identify provisionally as *P. antillarum* Sauss., the cerci are broad, somewhat spatulate and with the last two joints much enlarged; in *P. viridis* Fab., the cerci are lanceolate with the last two joints enlarged; in *P. nivea*, L., the cerci are lanceolate with the last joint only enlarged. This character occurs in both sexes, and taken in conjunction with

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the general size of the insect and the distance apart of the eyes is of considerable help in discriminating the species. In *P. nivea*, L., the eyes almost touch on the vertex of the head, and the male type has the following dimensions:—Total length 16 mm.; length of body 12 mm.; length of tegmina 13.5 mm.; pronotum 3.9 mm. × 4.1 mm. The antennæ are unicolorous, and the tegmina are immaculate. This is the commonest species of the genus, and will eventually be proved, I am sure, to have been described over and over again; it frequently finds its way to England, lurking in imported fruit, and has been recorded in the lists of Natural History societies as *P. exoleta* Burm. and as *P. virescens* Thunb. The type is recorded from Surinam.

11. *Blatta oblongata*, L., De Geer, op. cit. p. 541, pl. 44, f. 11.

= *Pseudomops oblongata*, L.

The specimen in De Geer's cabinet is much mutilated, consisting of the head and the two thoracic segments only; the tegmina also are missing. The head is piceous, with first and basal half of second joint of maxillary palpi flavo-testaceous, the rest of the palpi fuscous. Pronotum flavo-testaceous with a complex fusco-castaneous design on the disc. As already pointed out, this does not correspond with Linnæus' description "thorace punctis duobus lunulaque nigris" nor with De Geer's figure and description. The species is most nearly allied to *Pseudomops angusta*, Wlk.

12. *Blatta minutissima*, De Geer, op. cit. p. 542, pl. 44, ff. 13, 14.

= *Holocompsa minutissima*, De Geer.

(? *syn. Holocompsa cyanca*, Burm.)

One specimen in bad condition, the abdomen missing.

Description of the type:—

Head fuscous with a sparse rufous pubescence, clypeus and labrum testaceous; antennæ (mutilated) fuscous. Pronotum fuscous with a recumbent rufous pubescence. Tegmina with basal half coriaceous, castaneous, apical half membranous, hyaline, marginal area with rufous pubescence 6 to 7 costal veins anal vein impressed and bent

at a right angle. Wings not longer than tegmina; marginal area with a castaneous "stigma" formed by the incrassated branches of the mediastinal vein and by the five incrassated costal veins, the internervular spaces also being castaneous. Coxæ castaneous.

Total length 5 mm.; length of tegmina 4 mm.

From Surinam.

Brunner was the first to suggest that this species should be placed in the genus *Anaplecta*, and every other author has followed this lead without question. De Geer's figures are certainly too small and ill-defined to enable one to guess correctly at the systematic position of the species.

### iii. SPECIES DESCRIBED BY THUNBERG.

The papers in which Thunberg described new species of cockroaches are:—

1. *Dissertatio Entomologica novas Insectorum species sistens*. Part iv, pp. 76–78, Uppsala, 1784.

2. Några nya species af Blattæ—slägtet beskrifna. *Vetensk. Acad. nya Handl.* vol. 31, pp. 185–189, pl. 5, 1810.

3. *Blattarum novæ species descriptæ*. *Mém. Acad. St. Pétersb.*, vol. 10, pp. 275–293, pl. 14, 1826.

The second of these two papers containing the descriptions of seven new species has entirely escaped the notice of every subsequent authority on the *Blattidæ*; this neglect is rather remarkable, seeing that the paper was published in a well-known scientific journal, was furnished with a plate, and was referred to by Thunberg in a later memoir which is well-known to every orthopterist, viz., \**Hemipterorum maxillosorum genera illustrata*. *Mém. Acad. St. Pétersb.*, vol. 5, pp. 211–301, pl. 3, 1815. It affords me considerable satisfaction to bring about the resurrection of this forgotten memoir, especially as this involves no startling changes in nomenclature. In his *Dissertatio Entomologica de Hemipteris maxillosis Capensibus*, Uppsala pp. 1–8, 1822, Thunberg enumerates four species of *Blatta*, but all of these have been described previously, either by himself or by Fabricius, and as the

\* A manuscript copy of this memoir from the library of Audouin is in the Hope Library, Oxford Museum.

descriptions add nothing to those already published this paper will not be quoted below.

The Thunbergian collection of insects, which in its day must have been one of the largest in Europe, is still at Uppsala and is very much as Thunberg left it. Stål overhauled the Orthoptera, and though he published nothing concerning Thunberg's Blattidæ, nevertheless attached to most of the specimens the names of more recent authors. It is quite evident from a study of the collection that Thunberg was by no means a "splitter," even if judged by the standard of scientific accuracy of his day, and as a result it is frequently the case that more than one species in his collection stands under the same specific name. To take one example:—under the name *Blatta grossa* stand three species of the genus *Monachoda*, and the question arises, which of these is to be selected as the type? Thunberg's description affords no help. The simplest course is to regard that specimen as the type which most closely approximates to the description of the species drawn up by later authors from specimens which they imagined to be identical with Thunberg's specimen. A certain definite species of *Monachoda* stands in all collections under the name *M. grossa* Thunb., it is recognised presumably not by Thunberg's description but by Serville's, Brunner's or that of some other authority; since in Thunberg's own collection there is an example of this species, that example, in the absence of all evidence to prove the contrary, may be selected as the type of his species *M. grossa*. The following is a list of the species described by Thunberg, taken in the order of their publication.

In the first column the Thunbergian name is given, in the second the correct name of the species, and in the third column some synonyms:—

THUNBERG'S NAME.	CORRECT NAME.	SYNONYMS.
(1784) 1. <i>Blattia capensis</i> (op. cit. p. 77)	<i>Devopeltis erythrocephala</i> , Fab.	Cf. Kirby's Syn. Cat. Orth. i, p. 145.
2. <i>Blattia fusca</i> (op. cit. p. 77)	<i>Aptera fusca</i> , Thunb.	<i>Aptera cingulata</i> , Burm.
(1810) 3. <i>Blattia densa</i> (op. cit. p. 77 *)	<i>Oryzohoba densa</i> , Thunb.	Cf. Kirby, t. c. pp. 175, 176.
4. <i>Blattia ferruginea</i> (op. cit. p. 187)	<i>Blattia orientalis</i> L., rufous var.	<i>Periplaneta orba</i> , Stål, <i>Ischnophora juncea</i> , Sauss., <i>Nauphaeta forceolata</i> , Wlk.
5. <i>Blattia bicolor</i> (op. cit. p. 187, pl. 5, f. a)	<i>Pseudoderopeltis bicolor</i> , Thunb.	<i>Perisphaeria unicolor</i> , Brunner (nec Burmeister). <i>Zetobora rugosa</i> , Wlk. <i>Panchlora pilipes</i> , Wlk. †
6. <i>Blattia tuberculata</i> (op. cit. p. 187)	<i>Rhyparobia maderæ</i> , Fab. Larva.	<i>Monastria semialata</i> , Sauss.
7. <i>Blattia guttata</i> (op. cit. p. 188)	" " " "	<i>Monachoda granosa</i> , Brunn.
8. <i>Blattia scabra</i> (op. cit. p. 188)	<i>Hyposphæria scabra</i> , Thunb.	<i>Blattia cassidea</i> , Dalm., may be the same species, if it is, that name antedates Thunberg's, but the type is missing.
9. <i>Blattia hirta</i> (op. cit. p. 189)	<i>Blepharotera hirta</i> , Thunb.	<i>Phoraspis tuctuosa</i> , Sauss.
(1826) 10. <i>Blattia ciliata</i> (op. cit. p. 189, pl. 5, f. b)	<i>Eudryrhapha pacifica</i> , Coq.	Cf. Kirby, t. c. p. 196.
11. <i>Blattia papillosa</i> (op. cit. p. 276, pl. 14)	<i>Monastria papillosa</i> , Thunb.	<i>Nyctibora sericea</i> , Burm.
12. <i>Blattia pellucens</i> (op. cit. p. 276, pl. 14)	<i>Cyrtilia pellucens</i> , Thunb.	<i>Nyctibora holosericea</i> , Burm.
13. <i>Blattia scabulata</i> (op. cit. p. 276, pl. 14)	<i>Brachycola tuberculata</i> , Dalm.	Cf. Kirby, t. c. p. 161.
14. <i>Blattia asellus</i> (op. cit. p. 277, pl. 14)	<i>Blabera asellus</i> , Thunb. Young larva.	<i>Phoraspis heydeniana</i> , Sauss.
15. <i>Blattia cinerea</i> † (op. cit. p. 277)	<i>Epitampra grisea</i> , De Geer.	<i>Phoraspis cassidea</i> , Burm.
16. <i>Blattia limbata</i> (op. cit. p. 278)	<i>Nyctibora limbata</i> , Thunb.	
17. <i>Blattia brunnea</i> (op. cit. p. 278)	<i>Nyctibora brunnea</i> , Thunb.	
18. <i>Blattia reflexa</i> (op. cit. p. 278)	<i>Petasoles reflexa</i> , Thunb.	
19. <i>Blattia virescens</i> (op. cit. p. 278)	<i>Panchlora nireva</i> , L. ♀	
20. <i>Blattia bipustulata</i> (op. cit. p. 279)	<i>Cyrtilia conveza</i> , Thunb.	
21. <i>Blattia conveza</i> (op. cit. p. 279)	<i>Parahormetica bipustulata</i> , Thunb.	
22. <i>Blattia cylindrica</i> (op. cit. p. 279)	<i>Cyrtilia cylindrica</i> , Thunb. var. Larva.	
23. <i>Blattia gibba</i> (op. cit. p. 279)	<i>Notalampra gibba</i> , Thunb.	
24. <i>Blattia grossa</i> (op. cit. p. 280)	<i>Monachoda grossa</i> , Thunb.	

\* *Blattia imorata*, Fab., described in the same memoir is certainly not the same as the Fabrician species; it is represented in Thunberg's collection by two or three different species of *Epitampra*.

† *B. pilifera*, Stål, is a different species.

‡ It is not clear why Thunberg gave a new name to this species, which he recognised as identical with De Geer's species.

I append a description of *Parahormetica bipustulata*, as it is the only Thunbergian species which has not been re-described by subsequent authors, and which in consequence cannot be recognised without a more detailed description than the original one.

♀ Dark castaneous. Pronotum almost smooth, no impressions, only a very few punctuations, a pair of small orange spots in the posterior half of the disc, widely separated. Tegmina lobiform, of the same shape as in *P. bilobata*, Sauss., extending to apex of second abdominal tergite. Supra-anal lamina rounded, surpassed by subgenital lamina into which it fits. Cerci blunt, short. Abdomen below with disc rufous. Legs rufous. Total length 29 mm.; length of tegmina 9 mm.; pronotum 9.5 mm. × 13 mm.

#### IX. SYNONYMICAL NOTES.

The following Fabrician species have been omitted by Kirby from his Syn. Cat. Orthopt. vol. 1:—

*Blatta occidentalis*, Fabricius, Ent. Syst. ii, p. 7 (1793) to genus *Nauphata*. *Rhyparobia rufipes*, Kirby is synonymous. Type in Copenhagen Museum. Fabricius gives the locality as "in Americæ insulis," and on the label borne by the type is written "St. Thomas Is." The species is characteristic of W. Africa, and it is possible that Fabricius confused the Island of San Thomé with the West Indian island.

*Blatta palliata*, Fabricius, Ent. Syst. Suppl. p. 186 (1798) to genus *Hemithyrsocera*. *H. nigra*, Brunner is synonymous. Type in Copenhagen Museum.

*Blatta reticulata*, Fabricius, op. cit. p. 186 to genus *Phyllodromia*. Type in Copenhagen Museum.

*Blatta ruficollis*, Fabricius, Mant. Ins. i, p. 226 (1787) to genus *Ischnoptera*. Type in Copenhagen Museum.

I was unable to find the type of *Blatta longipalpa*, Fab.

The following notes result from an examination of Stål's types:—

*Blatta pumila*, Stål, is a species of *Anaplecta* probably conspecific with *A. lateralis*, Burm.

*Blatta miscella* to genus *Hololampra*.

*Blatta tenella* is a synonym of *Euthyrrhapha pacifica*, Coq.  
*Thyrsocera* (= *Pseudothyrsocera*) *circumelusa*, Stål, is ♀ of  
*P. circumcineta* Stål, and *P. semicincta* is ♀ of *P.*  
*rufiventris*, Stal.

*Epilampra tagalica*, *E. trivialis* and *E. caliginosa* are  
conspicuous.

*Cutilia tartarea* is a synonym of *Platyzosteria nitida*,  
Brunner.

*Periplaneta wahlbergi* to genus *Deropeltis*; *D. atra*, Brunner,  
is a synonym.

*Periplaneta albilatera* to genus *Pseudoderopeltis*.

*Pollusca* and *Homalodemus* are synonyms of *Derocalymma*,  
Burm.

*Blabera monstrosa* is a synonym of *Monastria biguttata*,  
Thunb.

*Blabera luctuosa* is not synonymous with *B. atropos*, Stoll.

The following corrections should be made in the list of  
Blattidæ from the Transvaal given in Mr. Distant's "Insecta  
Transvaaliensia."

*Phyllodromia delta*, Kirby, is synonymous with *P. supel-*  
*lectilium*, Serv.

*Apotrogia*, Kirby, is founded on a larva of the genus *Gyna*,  
and *A. angolensis*, Kirby, is probably the same as  
*Gyna caffrorum* Stål.

*Deropeltis distanti*, Kirby, is synonymous with *Blatta*  
*meridionalis*, Sauss.

*Nauphæta aspersata*, Kirby, is a species of *Oxyhaloa*  
possibly conspecific with *O. ferreti*, Reiche.

*Elliptoblatta uniformis*, Kirby, is a species of *Hyposphæria*.\*

*Pilema saussurei*, Kirby, described as a female, is in reality  
an immature male and probably the same as *P.*  
*clypeata*, Sauss.

*Derocalymma intermedia*, Kirby, is a synonym of *D.*  
*versicolor*, Burm.

*Derocalymma clavigera*, Kirby, is a species of *Hostilia*.

Dr. G. W. Müller of the Greifswald Museum having  
kindly lent me some of Gerstäcker's types, I am able to  
make the following corrections in nomenclature:—

\* I do not think that *Melanosilpha*, Stål, is distinct from  
*Hyposphæria*, Lucas.

<i>Phyllodromia patricia</i>	to be transferred to	<i>Theganopteryx.</i>
” <i>pulchella</i>	” ”	<i>Theganopteryx.</i>
” <i>cinnamomea</i>	” ”	<i>Ischnoptera.</i>
” <i>basalis</i>	” ”	<i>Ischnoptera.</i>
” <i>punctifrons</i>	” ”	<i>Ischnoptera.</i>
” <i>ægrotæ</i>	” ”	<i>Ischnoptera.</i>
” <i>relucens</i>	” ”	<i>Ischnoptera.</i>

*hemerobina, centralis, pustulosa,* and *obsolæta* are true species of *Phyllodromia*; the type of *P. amplicollis* is lost.

*Panchlora adusta* and *P. vitellina* are true species of *Panchlora*.